SIA Appendix 1: Social Impact Assessment Study Methodology

The research generally followed the steps outlined below. In practice, a number of different tasks took place simultaneously.

- *Preliminary Data Analysis*. NPFMC staff provided the subcontractor staff with sector and location data throughout the project as they became available. Results included homeport data, harvest data, and other relevant data by sector/location. These data were used initially to help focus the research effort, including helping to identify entities and individuals to contact. Much of this effort was in effect an augmentation of the earlier work accomplished for the Steller Sea Lion Protection Measures SEIS (the SSL SEIS for short), the AFA Report to Congress, and the Groundfish SEIS, and used that work as a foundation. The results of the analysis of these data are presented in the main body of this document, and detailed supporting information is contained in SIA Appendix 3: Supporting Data Tables.

- *Formulate Study Plan, including a Field Plan*. Following a preliminary examination of the current fishery data, an overall study plan, with emphasis upon the field plan for collecting additional sector, and especially community information, was prepared.

- *Summarize Relevant Existing Information*. Prior to the collection of field data, existing information relevant to the present effort was summarized. A good foundation for this existed in the SSL SEIS and earlier documents, which has incorporated important sources such as the 1991 community profiles and accompanying SIA, the 1994 Sector Profiles and Supplemental SIA (and supporting materials), the 1998 Inshore/Offshore-3 analysis, the Groundfish SEIS, and the AFA Report to Congress SIA section previously prepared by team members for earlier NPFMC groundfish management tasks. While these were somewhat limited with respect to crab specific information (being oriented primarily toward analyses of the groundfish fisheries), these materials, along with other relevant sources, were used to develop preliminary pre-field regional and community profiles, to identify information gaps, and to guide field interviews and research.

- *Conduct Field Visits and Phone Contacts to Collect Required Information*. Field time was limited by schedule and resource constraints. Brief field site visits were made to Unalaska/Dutch Harbor (Downs, 4 days), St. Paul (Galginaitis, 3 days) and Seattle (Galginaitis, 3 days). The field schedule for all communities was thrown off somewhat by the lack of quantitative information that was anticipated to be in-hand prior to the field phase. Other in-person contacts were made in Anchorage, and phone contacts were made with entities or individuals for all communities profiled.

- *Incorporate Additional Council Staff Analysis*. Portions of the rest of this report relevant to social and community effects were incorporated and discussed with Council staff.

- *Prepare Draft Initial Report*. Primary data and the available secondary data were analyzed, and a draft report prepared. The draft report included overview discussions and community profiles, and impacts analysis by region and community based on these profiles.

- *NPFMC Meeting and Consultation*. The draft community profiles were presented at the February, 2002 Council meetings in Anchorage. Input in the form of SSC, AP, and Council questions or comments was received.

- *Prepare Revised Draft Initial Report*. Input from the NPFMC Februrary, 2002 was incorporated,

along secondary data received from Council staff subsequent to the February, 2002 meetings, and field data from St. Paul. This document has been prepared for review at the April, 2002 NPFMC meetings. A final document, including input from the April meetings and fieldwork in Kodiak, will be prepared for the June, 2002 NPFMC meetings.

Information Goals, Objectives, and Techniques

Methods used were similar to those used by the researchers for past NPFMC projects. General community contacts were renewed (and, where necessary, established) with key community officials in order to gain access to the community and collect planning documents and other contextual information. This was confined for the most part to that information required to update the existing community profile for the specific communities identified in the scope of work (Unalaska/Dutch Harbor, King Cove, Adak, St. Paul, Kodiak, and Seattle). Contacts were chosen on the basis of our prior knowledge, the official position they occupied, or the consistent recommendation of a number of fishery participants ("snowball sample" approach). Thus, the people we talked with are not a representative sample of the fishery as a whole, but rather were chosen as especially knowledgeable and/or as potentially especially linked to community effects in regard to crab rationalization. They thus represent a judgmental sample from a select number of categories. That is, not all categories were represented, and not all were equally represented (see sampling discussion below). The intent of this strategy was not to provide a statistically random sample, rather, it was to provide access to a broad range of information to be able to characterize the direction and magnitude of changes likely to be seen in the communities as a result of crab rationalization informed by more than a decade of working on related fisheries issues in these communities.

Implementation of this study generally followed the standards for ethnographic work and the methods of Rapid Ethnographic Assessment Procedures as outlined by the NPS in the *Cultural Resource Management Guideline*, Release 4 (National Park Service 1994) and the NOAA Guidelines and Principals for Social Impact Assessment. Implementation of this study used multiple data collection techniques, discussed below in terms of documentary research and ethnographic research. Separate discussions are also devoted to sampling and other special considerations.

Because of the unique circumstances of this project, much of the previous literature and other documentary sources had already been compiled in previous work. Since the action to be taken was a in some respects a continuation of a number of previous actions in these and related fisheries, the research required was more in the way of an update and supplementation than a complete new construction. Thus there was little need for a new literature review as such.

Industry participant and municipal official contacts were a primary means through which existing profiles were updated. Our main method was to talk with a broad range of industry participants from each of the sectors identified as important components of the fisheries -- shoreside processors (fixed location plants as well as inshore floating processors), catcher-processors, motherships, and catcher vessels. Interviews were also conducted with individuals from support service sector businesses and, in the case of the Alaska communities, with individuals knowledgeable about other community economic sectors as well as with participants in other locally pursued fisheries. As in previous projects, our conversations were guided by a research protocol so that we could collect comparable information from those people we talk with, without submitting them to the time requirements of a more formal and inflexible survey instrument. The time horizons for this project were too short to allow for the development of a formal survey instrument which would have been subject to a lengthy review process by the Office of Management and Budget, because of the Federal funding of the project. Again, as in previous projects, employment and labor participation were addressed primarily through direct industry

sector contacts, although it was also part of the community profile discussion. Most specific employment information was developed as part of the field interview process (and follow-up data requests from industry associations and individual entities).

Preliminary examples of the protocols used in the field were derived from those used in our work in support of the NPFMC's Groundfish License Limitation analysis (1994), the Inshore/Offshore-3 analysis (1998), and the Groundfish SEIS (2001). Samples of these appear at the end of this document. As with previous projects for the Council, these were subject to internal team review and modification following initial field contacts, but they represent the main topical or information issue areas about which relatively consistent information needed to be developed for the purposes of this project.

Compared to earlier efforts, relatively little effort was devoted to field work, but the work that was conducted was crucial to the research. The ethnographic methods utilized are based on traditional anthropological and social science methods to investigate the nature and meaning of public values, attitudes, and beliefs. These schema and context data were collected through primarily open-ended, key informant interviews with persons representing different sector/community interest groups. Also, keeping in mind that a good portion of the field effort was directed toward updating information already in hand (and often collected from the same individuals or entities contacted for previous study efforts such as the AFA fieldwork that took place during 2001) for most interviews only a subset of protocol topics were pursued after some general questions were asked regarding relevant changes since the last set of interviews. Our experience has been that if the interviewee is discussing topics of interest that it is generally more efficient overall to allow him or her to guide the discussion rather than to impose the more artificial structure of direct questions. A more inflexible, formally structured, interview often produces much less direct information and very little interpretative context. The successful use of protocol interviewing of course depends upon the judgement of the interviewer, but is a technique with which we have much experience. Even with a "standard" protocol, not all interviews/contacts were guided by them to the same extent. We briefly discuss several of these special interview situations below.

"Standard Protocol" Interviews: The most common interview situation involved the researcher talking with an individual about his or her participation in the fishery, but often in a group context for larger corporate fishery entities. The interview was guided by the use of a protocol which specifies certain areas of interest and topics to be covered.

Key Person Interviews: Most of the initial interviews completed were ‘key person’ interviews. Key person interviews are conducted with people who hold central positions in public or private community organizations, or are key participants in the activity of main interest. These types of interviews are only semi-structured because the interviewees involved usually have busy schedules and time constraints. Although semi-structured interviews maintain the same open-ended quality of informal interviews, the structure of the interviews are determined by the researcher. Semi-structured interviews are usually employed in situations in which the researcher only has one chance to interview an informant. All interviews were be recorded in narrative form, primarily by written notes. Upon review of the data, follow-up interviews or contacts were sometimes arranged to clarify or obtain further information.

Group Meetings: There were many occasions when we had meetings of the researcher(s) with a number of people at the same time. These were not always predictable. Often the person with whom the meeting had been arranged would have asked one or more additional employees to attend, to provide information as well as to keep them informed of our role in the NPFMC’s research and information gathering to support their decision-making process. There were other occasions when a number of fishery participants would talk with us as a group, either because they all happened to be in the same place and/or because they (or we) did not have the time or flexibility to talk individually. In our experience, local people can be interested in such group meetings

for a number of reasons -- to find out from the researcher what he or she is doing, to communicate to the researcher some specific sorts of information, or to make themselves available to the researcher for whatever he or she wants to know.

Participant Observation: Participant observations are among the standard methodologies used in anthropological research. While this is a method that is best suited to longer term work, it may nonetheless be applied on a limited basis in shorter term fieldwork. This approach requires that the researcher establish a rapport with individuals in research communities and to engage this community and its members so that there is minimal disruption of the usual flow of everyday activity. This technique is valuable even in limited, focused efforts when there is an opportunity to engage some portion of a community about a focused topic as well as interact with individuals outside of the interview context per se. This process was facilitated by the individual researchers' previous experience. In addition to having many years of formal research experience in general, Mike Downs has been doing ethnographic research in Unalaska/Dutch Harbor (and, to a much lesser degree, Akutan) since 1982; Michael Galginaitis began working on Southwest Alaska region projects in 1985. Both Downs and Galginaitis have both worked in the communities relevant to the present work on NPFMC specific projects since 1990.

Nonreactive Observations: Nonreactive observations are sometimes referred to as "unobtrusive" measures, and refer to a research approach that does not require the participation of an informant. Unobtrusive observations typically have little no impact on what is being studied, and include all methods for studying behavior and context in which informants do not actively participate. One of this technique's main concerns is to avoid sensitizing informants to issues that are important to the researcher. Thus, researchers do not ask informants direct questions about individual behavior or community patterns of behavior. Instead, they conduct systematic observations that measure behaviors of interest in a less direct form. As an example, researchers may count vessels at various private docks or public moorage locations to gain insight into patterns of use during fishing seasons that may then be followed up on during interviews. Such measures sometimes provide insight and information that is often unobtainable through other techniques when informants are aware of the researcher or subject matter of interest, particularly where a strong potential for biasing answers exists. Nonreactive observations are especially useful when weighing conflicting information from different informants. Again, given the limited scope of the field research for this project, these techniques were of limited utility, but were employed to a degree.

Informal "Unstructured" Interviews: Informal interviews are often considered to be a form of participant observation. However, an unstructured interview differs from a conversation held during participant observations. While participant observation implies letting a 'cultural consultant' define the form and content of conversations, informal interviews are clearly interviews. That is, when the researcher meets with informants, he or she has a clear plan in mind concerning conversational topics, but does not have a specific set of questions that should be asked. Although the researcher establishes the general direction of the conversation, he or she maintains little control over the direction or topicality of informant's responses. The objective of this type of interviewing is to allow the informant to speak freely and at his or her own pace. These types of interviews are often useful in conjunction with more formal interviews when more than one informant is present.

Sampling

Obtaining a randomly selected and statistically representative sample was not the goal of this study. Rather, for this type of study data are needed from a non-random but systematically selected sample. The intention of this study is to identify knowledgeable "industry experts" and key fishery participants who can identify relationships and associations (both historic and current) between themselves and other fishery participants.

Also targeted were community officials, and key persons in other sectors of the local economy and social structure to allow for a characterization of the role of the fishery in the local economy and a description of (and perspective on) co-occurring changes over the relevant time frame.

Given that a specific type of information is desired, and this information is not randomly distributed within the group, efficient gathering of these data required a well defined, targeted approach. Such targeted sampling approaches include quota sampling, purposive sampling, and "snowball" or network sampling. These methods are systematic approaches to the identification of appropriate interviewees. Each is briefly described below.

Snowball sampling may be used as an entre for research with members of various interest and stakeholder groups as a means to identify the full range of groups that are similar to or different from the point of entre. Like most other research of this type, initial field data collection among any particular group identified will almost always begins with informant networking. Networking is a process whereby the researcher requests several key informants to identify others who would be suitable to interview. The process begins with the researcher contacting and interviewing a person who holds a formal status in the group, such as an association executive director, or the like. The informants are apprized of the research project during the interviews, and if they are confident that the researcher will not violate group interests and values, they will usually refer the researcher to other knowledgeable individuals. This sampling technique provides an effective means of building an adequate sampling frame in short order, particularly in a small population where people are likely to be in contact with one another and when the research is focused to the point where the type of information desired is held by a relatively few individuals. Snowball sampling is also a useful tool when studying small, bounded, or difficult to locate populations. In this case, we started with the various industry and/or sector associations and worked outward in addition to recontacting individuals known from previous research.

Quota sampling can be used to a degree to assure adequate coverage of geographical areas, interest groups, and stakeholders. In quota sampling the researcher decides on the categories of interest before the research begins. The sample is selected from those predetermined categories and then a targeted number of individuals are interviewed from each category. That is, the researcher constructs a matrix describing all of the characteristics of information to be obtained. A relative proportion is assigned to each cell in the matrix, and data is collected from persons who possess the characteristics of a given cell. Of all the nonprobability sampling techniques, quota sampling closest to approximating a true random sample. In addition, it guarantees that all the research categories of interest will be represented in the study. In most instances, it is possible to indicate some sort of estimate or evaluation, since this sort of sample represents the population from which it is drawn. Under extremely good conditions, quota sampling results in a stratified random sample, but in most cases it is not possible to determine if members of all categories have had an equal chance of selection. For the purposes of this research, the relatively small number of interviews conducted in any one location, and the focus of such interviews on "key" people and sector/industry experts, would not result in any sort of random sample in any event, however, the research did benefit from well defined categories for the beginning ‘matrix’ so this did not prove to be a significant difficulty.

Purposive or "judgement" sampling refers to the selection of a sample based on what the researcher believes will yield the most comprehensive understanding of the subject under study. This sampling technique is similar to quota sampling in that the researcher selects his or her target categories of inquiry based on the objectives of the research. However, for this type of sample there is no overall sampling design that dictates how many respondents from each category are needed for the study. Purposive samples are often used when a researcher wants to select only a few cases for intensive study, when conducting life history research, or when engaging in qualitative research on special populations. The potential problems of defining and enumerating the sampling universe exist for this method as well. This type of sampling, in practical terms, means keeping the design flexible so that, in the words of National Standard 8, “the analysis does not have to contain an

exhaustive listing of all communities [or, by extension subcommunities or subsectors] that might fit the definition [of fishing communities]; a judgement can be made as to which are primarily affected" (Fed Reg 1997:41918). Purposive sampling allows for reasoned judgement in adjusting interview targeting strategies once the fieldwork is underway, information begins to be developed, and salient issues begin to become apparent.

Use of formal interview instruments that would require OMB approval was precluded by the short time horizon and amount of resources available for the work. Further, it was recognized that representative samples in a statistical sense (at least for some communities and sectors) would not be achievable. A complete characterization of the population before sampling was infeasible (such description was, after all, one of the intended goals of the research), and the random selection (and contact) of interviewees impractical. Given these limitations, the sampling strategy was guided by a statistical description based on historical fishery participation data, with special emphasis on the most recently available information (2000 in most cases). Based on this categorization and the focus on community effects, and in view of the amount of other information already available and a judgement as to the extent of change in different sectors of the fishery since the construction of the last sector profile, the decision was made to focus on those communities with the most direct linkages to the BSAI crab fisheries – Unalaska/Dutch Harbor, King Cove, Adak, St. Paul, Kodiak, and Seattle. This decision was made prior to study initiation and was made a part of the scope of work. No targets for "samples" were set in each community, primarily due to the brevity of field time in any field location, and the availability of prior information. Field work for this project was in essence to "calibrate" the existing information in terms of its applicability and usefulness for this document. Target goals for the adequate description of each sector and a discussion of the dynamics of change in that sector were established.

For sectors with a small number of participants it was judged necessary to contact as high a proportion of category members as possible, within the constraints of the project. This was most pressing in the processing sectors, given the ties to the specific communities involved. For catcher processors, sampling was more problematic due to the variation in operational size within this sector. For catcher vessels, due to limitations of time and resources, and the dispersed nature of the sector, we worked though industry associations, such as United Catcher Boats for fleet level data, and supplemented this with opportunistic interviews in the field and at NPFMC meetings. Catcher vessels interviews are inherently a difficult challenge, partly because of the larger number of individual entities and the variation among them, as well as the wider geographical distribution of these entities. As with the catcher processor sector, some business entities operated more than one vessel, and in those cases information obtained about individual vessel operations was less detailed than for other entity interviews. In any event, less emphasis was placed on these interviews for two reasons. First, this effort is primarily focused on community effects (not sector effects), and community effects due to potential vessel-related effects of crab rationalization on communities were judged to be potentially less than for processor-related effects. Secondly, the time and resource constraints of the research dictated that relatively few such interviews be conducted.

Effort was also made to contact a number of fishery support service entities in each community, although we did not try to establish the sample universe. In practical terms, however, we were able to cover the range of these businesses in the smaller Alaska communities where the types of entities and the total number of these entities is few. (For Unalaska/Dutch Harbor, support service businesses were a specific focus of this research due to the fact that this community has a more highly developed support service sector than other communities in the region, information on this sector was relatively undeveloped, and that these businesses as a group were seen to be a likely nexus of crab rationalization related fishery/community intersection impacts.) These interviews were used to elicit local views on community trends, in terms of fishery dynamics, from other rationalization efforts as well. For the most part, this information confirmed the information derived from other measures, which were also based on partial, rather than complete or statistically representative information

(housing sales, tax revenue trends, spending in general). Interviews with "key" community officials also fit into this category, as the information derived from them was not robust enough by itself to establish any trends or conclusions, but in conjunction with other information was useful to establish at least the direction (if not the magnitude) of effects.

The following table provides a summary of in-person field contacts and substantive telephone contacts.

Table A1-1 Number of Interviews by Community and Sector

Community	Sector	Count
Unalaska/Dutch Harbor	City	6
	Shore Processors (Companies)**	8
	Catcher Vessels	5
	Catcher Processors	1
	Fishery Support Service Providers	7
	Native Corporation	1
	Other Community Interests	3
King Cove*	Fishery-related included in Seattle	na
Adak*	City	1
	Native Corporation/Subsidiary	1
	Regional Corporation Representative	2
	Shore Processor	1
St. Paul	City/CDQ/Native Corporation/Community Groups	14
	Shore Processors (Companies)	2
Kodiak*	Fishery-related included in Seattle	na
Seattle*	Fisheries Organizations	5
	Crab Processing Companies	4
	City/Fisheries Support Service	1

Notes: *As noted in the introductory methodology discussion for the community profiles themselves, fieldwork in Kodiak will be completed in April, 2002 and incorporated in the analysis for a revised version of this document to be presented at the June, 2002 NPFMC meetings. Fieldwork in King Cove and Adak, along with follow-up fieldwork in Seattle to complete the comprehensive SIA will be undertaken for the BSAI crab EIS that will build upon the current document.
**Where "company" is identified, more than one individual (and often several) may have been contacted and/or interviewed singly or in a group.

Other Methodological Considerations

There are four interrelated concerns that should be noted regarding the data utilized in this research. These topics are industry participation, confidentiality, informed consent, and self-interest.

Industry Participation: The ability to carry out this project depended to a large extent on the active involvement of industry participants. Given the real-world constraints associated with this project, we approached this industry organizations early in the study and asked for their assistance in providing aggregated data from and their membership. These groups also facilitated contact with member and non-member entities alike.

Confidentiality: The tasks required for the specified scope of work impose substantial challenges in the area of guaranteeing confidentiality for those research participants who desire this protection. Any ethnographic field work in small communities requires that the form of publicly disseminated products be carefully designed and written so that the privacy of individuals are protected. When this is combined with potential financial and operational confidential information concerns, these considerations are even more accentuated. A verbal process of informed consent for research participants, combined with the coding of field notes and a restrained use of information identifying individuals in public reports, is usually adequate to handle these problems. This project was less problematic in these regards than it could have been because of the clear awareness most industry participants have in these areas, and their familiarity with the Council analysis and decision-making process.

Informed Consent: Informed consent is a very difficult subject, because if everyone were truly "fully informed" of all of the more remote potential consequences of their participation, this would be an extraordinarily extensive discourse, and few would be likely to participate in whatever they are being asked to do. Most social science is conducted within ethical guidelines and with verbal, or even implied, informed consent obtained. Verbal informed consent, though a disclosure of the research goals and process, as well as contractor and sponsor information, was a part of every interview, as was the question of whether or not the individual wished to speak with us. (Notes made about public behavior were not subject to such informed consent.)

Self-Interest: It must be recognized that much of the information, other than that derived from data sets obtained from NPFMC staff, is from parties with a vested interest in the management decisions made by the NPFMC. As such, all can contain potential sources of bias. This is not an unusual situation, however, and truly “objective” information about any human endeavor is extremely rare. The object is not to eliminate self-interested information from this research, but rather to balance that information with data from other sources.

SIA Appendix 2: Unalaska Municipal Revenue Note

The following DCED Unalaska municipal revenue table is less detailed than the information provided in the community profile itself, but is provided here in order to allow comparability of information between Alaska communities. Table A2-1 provides information for 1999 and 2000.

Table A2-1 Unalaska Municipal Revenues, 1999 and 2000

	1999	2000
Local Operating Revenues		
Taxes	$11,853,490	$12,775,775
License/Permits	$13,687	$22,018
Service Charges	$566,459	$586,947
Enterprise	$10,925,442	$11,955,169
Other Local Revenue	$2,793,052	$2,351,981
Total Local Operating Revenues	$26,152,130	$27,691,890
Outside Operating Revenues		
Federal Operating	$336,193	$193,065
State Revenue Sharing	$201,088	$129,402
State Safe Communities	$125,281	$83,312
State Fish Tax Sharing	$5,164,608	$4,708,573
Other State Revenue	$1,083,384	$1,073,143
State/Federal Education Funds	$2,303,157	$2,453,287
Total Outside Revenues	$9,213,711	$8,640,782
Total Operating Revenues	**$35,365,841**	**$36,332,672**
Operating Revenue Per Capita	$8,465	$8,483
State/Federal Capital Project Revenues	$217,144	$6,828,094
TOTAL ALL REVENUES	**$35,582,985**	**$43,160,766**

Source: DCED Website, 2001, 2002

SIA Appendix 3: Supporting Data Tables

The detailed tables in this appendix are intended primarily to support the summary or "annual average" tables which appear in the community and social impact discussion in body of the text (Section 2.6). The detail provided by time-series values for 1991-2000 also allow for the identification of directional trends over time. The tables fall into five different categories, each of which will be discussed in turn.

Table A3-1 enumerates the community of residence for owners of harvesting vessels (both catcher vessels and catcher processors) in the QS/IFQ crab fisheries. It aggregates vessel counts over the ten year period 1991-2000, and thus counts a vessel for each fishery that it participated in each year. It provides information for qualified crab landings only, although information on non-qualified landings is also available. Including non-qualified landings increases the communities with one or two vessels by a large amount, but provides little additional usable or significant information. Those communities with the largest number of non-qualified vessels (or vessels qualified in one fishery with non-qualified landings in another) are the same communities with the largest numbers of qualified vessels. It further simplifies the counts by enumerating only the three largest QS/IFQ fisheries individually, and providing more summary counts of unique vessels which participate in any of those three fisheries, in any of the other six QS/IFQ crab fisheries, and finally in any of the nine such fisheries. This last count is the truest sort of total, and these three summary totals allow at least broad conclusions about the different crab fisheries in which the same vessels may participate. In more general terms, Table A3-1 supports the summary count tables in the main text, and demonstrates that the ownership of QS/IFQ crab fishery harvest vessels is concentrated in a few communities, with a wide dispersal of a few vessels over a large number of additional communities.

(Tables currently withheld for confidentiality review)